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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,682	10/03/2003	Laurent Bonafous	0528-1092	8819

466 7590 01/29/2007
YOUNG & THOMPSON
745 SOUTH 23RD STREET
2ND FLOOR
ARLINGTON, VA 22202

EXAMINER

MARCANTONI, PAUL D

ART UNIT	PAPER NUMBER
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1755

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/677,682

Applicant(s)

BONAFOUS ET AL.

Examiner

Paul Marcantoni

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-21 and 24-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-21 and 24-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Serial No:10/677/682
Art Unit: 1755

The applicant's amendment and response of 10/25/06 has been considered but is not persuasive and moot in view of the new grounds of rejection.

35 USC 112 Second Paragraph:

Claims 13-21 and 24-26 are rejected under the second paragraph of 35 USC 112 as failing to set forth the subject matter which applicants regard as their invention.

The applicants do not provide total parts by weight in claim 13 and thus this remains indefinite. Claim 27 provides amounts in weight percent and is definite. Applicants may consider placing claim 13 in a similar weight percent format to overcome this issue entirely.

35 USC 103:

Claims 13-21 and 24-27 are rejected under 35 USC 103(a) as being unpatentable over Cassar et al. '229 or '821, Kaneda et al. (JP '398) or Lee (KR '946) alone or in view of Jungk '505 and Beyn '380.

All of the primary references teach compositions comprising cement (hydraulic binder such as Portland cement) and a photocatalyst. While the prior art does not teach the exact range of amounts, overlapping ranges of amounts would have been prima facie obvious to one of ordinary skill in the art.

Kaneda and Lee teach titania photocatalyst with a specific surface area of 20-350 square meters/gram and 1-200 microns respectively which can include granules of more than one particle size and thus meeting applicants' claims.

It is also noted that the examiner indicated in his first office action rejection mailed 7/25/06 that granules or agglomerates are known in the art for use in the art

because they have easier handling and less health problems of workers (ie less dusting with granules) than powders. They have been shown to have good handling, less dusting, and even good homogeneity that is better than powders or pastes. The applicants did not appear to traverse the examiner's position (which was essentially official notice) regarding the use of granules versus powders (and pastes). Nevertheless, the examiner has included both Jungk and Beyn which teach adding granules (or agglomerates-synonymous) to hydraulic cement and the granules are added to the hydraulic binder (cement) at the time of mixing. The use of granules over pastes or powders is thus not a new concept. Further, Jungk and Beyn both teach excellent homogeneous dispersion in mediums such as plastic mediums (including cement-see Beyn as well). It is further noted that applicants' use titania granules. Titania (Titanium oxide) is a pigment material conventional in the art. The use of titania granules versus powders or pastes would have been understood and an advantageous design choice for one of ordinary skill in the art to obtain and improved homogeneous dispersion and also improved handling (less dusting).

The applicants state on page 3, lines 12-15 of their specification that the novelty of their discovery is using photocatalysts (such as titania which is also a pigment) of different granulometries (or granular classes-ie different size granules) having different specific surface areas in a composition for improved photocatalytic effect versus that of powders.

The examiner agrees the prior art does not teach the same motivation (improved *photocatalytic* effect). However, the motivation to combine references does not need to be for the same exact reason as applicants motivation or reason for using granules. Titania is still a pigment and it would have been an obvious and advantageous design

choice to use titania in hydraulic cement (such as Portland cement) because of easier handling (less dusting) and improved homogeneity and dispersion in a cement mixture.

Response:

Applicants' response is moot in view of the new grounds of rejection above. They do state that the prior art does not teach their granulometry or different granule sizes. Yet, they do not disagree that the use of photocatalysts (powders it is assumed) is conventional in the art. The examiner notes that Jungk and Beyn provide teaching that the use of a granule for titania (also a pigment) is old in the art.

The applicants hold that they do not need total parts by weight in claim 13. Yet, they use comprising claim language which can include other components so it would not make much sense without some upper limit or total parts by weight. This can be resolved by using weight percent as was done in claim 27.

The examiner has also withdrawn many references as their teaching would appear redundant that cement and photocatalysts such as titania are old in the art and to simplify and streamline prosecution to ease applicants' burden.

Inquiries regarding this communication may be directed to Paul Marcantoni at 471-272-1373.


PAUL MARCANTONI
PRIMARY EXAMINER
GROUP 1700